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| EXAMINER |
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GUSHI, ROSS N

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| ART UNIT | PAPER NUMBER |
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2833

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,433

Applicant(s)

SCHATY, HARALD

Examiner

Ross N. Gushi

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) 49-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 25-47 is/are rejected.
- 7) ☐ Claim(s) 22-24 and 48 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/2/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-48, drawn to contact studs, cap nuts, contact systems, classified in class 439, subclass 92.
- II. Claims 49-55, drawn to a method of fastening a contact, classified in class 29.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the products can be made using processes without a torque of greater than 4 Nm.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with M. Falcoff on 2/23/04 a provisional election was made with traverse to prosecute the invention of group 1, claims 1-48. Affirmation of this election must be made by applicant in replying to this Office action. Claims 49-55 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al. ("Arnold") in view of Ladoucer et al. ("Ladoucer").

Regarding claims 1, 2, 3, Arnold discloses an electrical contact stud 30 for fastening an electrical earth contact, the stud comprising: a shank 36 having an external thread; a contact flange 34 adjoining the shank, having a contact face facing the shank; and a cap nut (as part of the prior art). To the extent that Arnold does not state that the cap is plastic, Ladoucer discloses a ground stud with a plastic cap nut 76 (col. 12, lines 14-21). At the time of the invention, it would have been obvious to use the plastic cap as taught in Ladoucer on the Arnold stud. The suggestion or motivation for doing so would have been to prevent paint from covering the stud as taught in Ladoucer.

Regarding the limitation of the shank having the external thread operable to screw down the cap nut with a torque of at, least 4 Nm or other torque forces, to the extent that Arnold and Ladoucer do not specify the torque to be applied, at the time of the invention, the tightness of the interference threaded fit would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in tightness of the fit would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of

the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

Regarding claims 4-9, and the limitations regarding the particular ratios of inclinations, ratios of thicknesses, to the extent that Arnold and Ladoucer do not specify exact dimensions, at the time of the invention, workable dimensions of the ratios of inclinations, ratios of thicknesses, would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the ratios of inclination would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

Per claim 10, Arnold the contact flange comprises a welding portion having a blunt conical projection, the welding portion positionable on a contact flange face opposite the contact face.

Per claim 11, the Arnold contact flange of the stud comprises an axial extension forming a contact face for introduction of a welding current.

Per claim 12, the contact flange comprises a tool engagement region.

Claims 42-43 are rejected for the reasons pertaining to claims 1-12.

Claim 13 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold and Ladoucer as in 1 and 42 in view of Lanham. Regarding claim 13, Arnold does not show a "bezel" on the shank. Lanham discloses a shank including a "bezel." At the time of the invention, it would have been obvious to modify the Arnold

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shank to include a beveled end as shown in Lanham, for reasons well known in the art such as to facilitate attachment of the mating nut or cap nut and to remove burrs or other unwanted manufacturing artifacts.

Claim 44 is rejected for the reasons pertaining to claims 13 and 42.

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold and Ladoucer in view of Brinkmann. Arnold does not discuss coatings. Brinkman discloses coating connector elements with corrosion proof conductive tin-zinc alloys (col. 1, lines 45-55). At the time of the invention, it would have been obvious to use known conductive coatings such tin zinc alloys as taught in Brinkmann on the Arnold stud. The suggestion or motivation for doing so would have been to prevent corrosion and improve durability as taught in Brinkmann and as is well known in the art (col. 1, lines 30-40).

Claims 16-21, 29-32, 34-37, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold and Ladoucer as discussed regarding claims 1-12 in view of Maclean and Russell. Arnold and Ladoucer do not state that the flange shown is a sealing flange on the cap. MacLean discloses plastic cap nut including a sealing flange 52. At the time of the invention, it would have been obvious to construct the Ladoucer cap flange to seal as taught in MacLean. The suggestion or motivation for doing so would have been to prevent paint from contaminating the stud, as taught in MacLean, col. 2, lines 5-10.

Ladoucer may be ambiguous as to whether there are threads in the cap. Russell discloses a plastic nut cap with threads 42. At the time of the invention, it would have

been obvious to include threads in the nut cap as taught in Russell. The suggestion or motivation for doing so would have been to facilitate fastening to a threaded shank, such motivation being well known in the art.

Claims 17-21 are rejected for the reasons pertaining to claims 2-9.

Per claim 29 the Ladoucer cap comprises a centering point.

Per claim 30, the MacLean sealing flange comprises a paint seal.

Regarding claim 31, as shown in Ladoucer, the diameter of the cap flange is one of equivalent to and less than a diameter of the contact face (see figure 11). At the time of the invention, it would have been obvious to have the flange be smaller than the stud when used with the Arnold stud. The suggestion or motivation for doing so would have been to facilitate placement of the stud as taught in Ladoucer (col. 12, lines 5-20).

Per claim 32, the front end as taught in MacLean comprises one of a concave surface and an obtuse-angled, conical recess, operably forming a front end outside sealing lip. At the time of the invention, it would have been obvious to form the sealing flange with an obtuse-angled, conical recess, as taught in MacLean. The suggestion or motivation for doing so would have been to provide a seal as taught in MacLean.

Per claim 34, the Ladoucer cap comprises a tool engagement region.

Claims 35-37 are rejected for the reasons pertaining to claims 16-21.

Claims 45-47 are rejected for the reasons pertaining to claims 16-21.

Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, Ladoucer, Maclean, and Russell as discussed regarding claim 16 in view of Yamabe et al. ("Yamabe"). Arnold and Ladoucer do not discuss the particular plastic.

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Yamabe discloses a tube joint made from a polyamide reinforceable by a plurality of glass fibers (col. 3, lines 50-56). At the time of the invention, it would have been obvious to make the cap from well known engineering plastics such as a polyamide reinforceable by a plurality of glass fibers. The suggestion or motivation for doing so would have been to have a cap with good mechanical strength and heat resistance as taught in Yamabe.

Regarding the percentage of glass fibers, at the time of the invention, workable percentages of the glass fiber would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the composition would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

Claim 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, Ladoucer, Maclean, and Russell as discussed regarding claim 16 in view of Janitzki. Ladoucer does not discuss the threads. Janitzki discloses that the thread dimensions of mating threaded parts may be made unequal so as to prevent play (col. 3, lines 10-50). At the time of the invention, it would have been obvious to modify the cap or stud thread configuration to prevent undesired loosening of the cap, using various known techniques such as varying thread dimensions as taught in Janitzki. The suggestion or motivation for doing so would have been to prevent undesired loosening as taught in Janitzki.

Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold, Ladoucer, Maclean, Russell and Janitzki as discussed regarding claim 33 in view of Darling. Arnold, Ladoucer, Maclean, Russell and Janitzki do not discuss varying the thread inclination. Darling discloses varying the thread inclination to provide locking. At the time of the invention, it would have been obvious to modify the cap or stud thread configuration to prevent undesired loosening of the cap, using various known techniques such as varying thread inclination as taught in Darling. The suggestion or motivation for doing so would have been to prevent undesired loosening as taught in Darling.

Regarding claims 39-41, at the time of the invention, the shank to orifice ratio would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the ratios would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

Allowable Subject Matter

Claims 22-24 and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: regarding claims 22 and 48, the prior art does not suggest the cap nut as

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claimed, including the combination of all the claimed elements, the combination including that the cap nut comprises a conductive plastic material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is (703) 872-9306.

A handwritten signature in black ink, appearing to read "Ross Gushi", with a stylized, flowing script.